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Introduction to the Principles of Ceramic Processing

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A WILEY-INTERSCIENCE PUBLICATION

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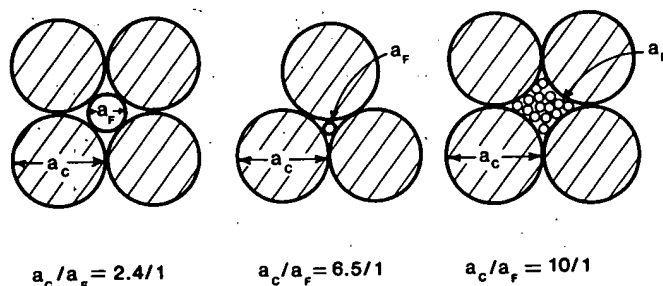


Fig. 13.3 Packing of fine spheres in a planar interstice among coarse particles.

Table 13.3 Packing Density of Mixed Spheres of Different Size

| Diameter (cm) (weight fraction of spheres) | | | | | Packing Density (%) | |
|---|-------|-------|-------|-------|---------------------|--------------|
| | 1:28 | 0.155 | 0.028 | 0.004 | Calculated | Experimental |
| 1.000 | — | — | — | — | 60.5 | 58.0 |
| 0.726 | 0.274 | — | — | — | 84.8 | 80.0 |
| 0.647 | 0.244 | 0.109 | — | — | 95.2 | 89.8 |
| 0.607 | 0.230 | 0.102 | 0.061 | — | 97.5 | 95.1 |

Source: R.K. McGeary, *J. Am. Ceram. Soc.* 44(10), 513-522 (1961).
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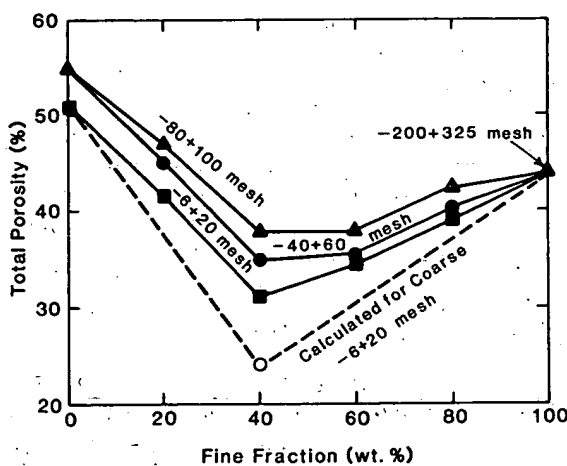


Fig. 13.4 Calculated and experimental total porosity for vibrated, two-component mixtures of tabular alumina fines (-200 + 325 mesh) and three different coarse fractions. (Note: particles are porous.)

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